

## ABSTRACT

## Method of obtaining a transmission gain function

Method of obtaining a transmission gain function by means of an array of antennae, a signal to be transmitted by the array being weighted by a vector ( $\bar{b}_d$ ) of N complex coefficients, referred to as the transmission weighting vector, N being the number of antennae in the array, the array transmitting to a telecommunication terminal over a transmission channel, referred to as the downlink channel, a downlink transmission signal ( $S_d$ ) and the said terminal transmitting to the said array over a transmission channel, referred to as the uplink channel, an uplink transmission signal ( $S_u$ ), the said downlink channel being disturbed by an isotropic noise ( $N'$ ) and/or a directional noise, referred to as the downlink interference ( $I_d$ ), the said transmission weighting vector ( $\bar{b}_d$ ) being determined by means of a matrix product from a noise power matrix ( $D_d$ ) which is a function of the power of the said isotropic noise and/or of the power of the said directional noise and a vector ( $\bar{C}_d$ ), referred to as the downlink channel vector, representing an angular sampling of the transfer function of the downlink channel in M directions k,  $k=0, \dots, M-1$ , belonging to the angular range covered by the array.

Fig. 4